LTC 2915/91, LTC 2917/91, & LTC 2919/90

Photo inset shows LTC 2919/90 with rack-mount kit installed (sold separately).

Security Systems

EN | **Instruction Manual**
Color Video Monitors

BOSCH

Important Safeguards

1. **Read, Follow, and Retain Instructions** - All safety and operating instructions should be read and followed before operating the unit. Retain instructions for future reference.
2. **Heed Warnings** - Adhere to all warnings on the unit and in the operating instructions.
3. **Attachments** - Attachments not recommended by the product manufacturer should not be used, as they may cause hazards.
4. **Installation Cautions** - Do not place this unit on an unstable stand, tripod, bracket, or mount. The unit may fall, causing serious injury to a person and serious damage to the unit. Use only manufacturer-recommended accessories, or those sold with the product. Mount the unit per the manufacturer's instructions. Appliance and cart combination should be moved with care. Quick stops, excessive force, or uneven surfaces may cause the appliance and cart combination to overturn.
5. **Cleaning** - Unplug the unit from the outlet before cleaning. Follow any instructions provided with the unit. Generally, using a damp cloth for cleaning is sufficient. Do not use liquid cleaners or aerosol cleaners.
6. **Servicing** - Do not attempt to service this unit yourself. Opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
7. **Damage Requiring Service** - Unplug the unit from the main AC power source and refer servicing to qualified service personnel under the following conditions:
   - When the power supply cord or plug is damaged.
   - If liquid has been spilled or an object has fallen into the unit.
   - If the unit has been exposed to water and/or inclement weather (rain, snow, etc.).
   - If the unit does not operate normally, when following the operating instructions. Adjust only those controls specified in the operating instructions. Improper adjustment of other controls may result in damage, and require extensive work by a qualified technician to restore the unit to normal operation.
   - If the unit has been dropped or the cabinet damaged.
   - If the unit exhibits a distinct change in performance, this indicates that service is needed.
8. **Replacement Parts** - When replacement parts are required, the service technician should use replacement parts specified by the manufacturer or that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electrical shock or other hazards.
9. **Safety Check** - Upon completion of servicing or repairs to the unit, ask the service technician to perform safety checks to ensure proper operating condition.
10. **Power Sources** - Operate the unit only from the type of power source indicated on the label. If unsure of the type of power supply to use, contact your dealer or local power company.
    - For units intended to operate from battery power, refer to the operating instructions.
    - For units intended to operate **with External Power Supplies**, use only the recommended approved power supplies.
    - For units intended to operate with a limited power source, this power source must comply with EN60950. Substitutions may damage the unit or cause fire or shock.
    - For units intended to operate at 24VAC, normal input voltage is **24VAC**. Voltage applied to the unit's power input should not exceed 30VAC. User-supplied wiring, from the 24VAC supply to unit, must be in compliance with electrical codes (Class 2 power levels). Do not ground the 24VAC supply at the terminals or at the unit's power supply terminals.
11. **Coax Grounding** - If an outside cable system is connected to the unit, ensure that the cable system is grounded. U.S.A. models only - Section 810 of the National Electrical Code, ANSI/NFPA No.70, provides information regarding proper grounding of the mount and supporting structure, grounding of the coax to a discharge unit, size of grounding conductors, location of discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.
12. **Grounding or Polarization** - This unit may be equipped with a polarized alternating current line plug (a plug with one blade wider than the other). This safety feature allows the plug to fit into the power outlet in only one way. If unable to insert the plug fully into the outlet, try reversing the plug. If the plug still fails to fit, contact an electrician to arrange replacement of the obsolete outlet. Do not defeat the safety purpose of the polarized plug.
    Alternately, this unit may be equipped with a 3-wire grounding plug (a plug with a third pin, for grounding). This safety feature allows the plug to fit into a grounding power outlet only. If unable to insert the plug into the outlet, contact an electrician to arrange replacement of the obsolete outlet. Do not defeat the safety purpose of the grounding plug.
13. **Lightning** - For added protection during a lightning storm, or when this unit is left unattended and unused for long periods of time, unplug the unit from the wall outlet and disconnect the cable system. This will prevent damage to the unit due to lightning and power line surges.

For Indoor Product

1. **Water and Moisture** - Do not use this unit near water - for example, in a wet basement, in an unprotected outdoor installation or in any area classified as a wet location.
2. **Object and Liquid Entry** - Never push objects of any kind into this unit through openings, as they may touch dangerous voltage points or short out parts that could result in a fire or electrical shock. Never spill liquid of any kind on the unit.
3. **Power Cord and Power Cord Protection** - For units intended to operate with 230VAC, 50Hz, the input and output power cord must comply with the latest versions of IEC Publication 227 or IEC Publication 245.
   Power supply cords should be routed so they are not likely to be walked on or pinched. Pay particular attention to location of cords and plugs, convenience receptacles, and the point of exit from the appliance.
4. **Overloading** - Do not overload outlets and extension cords; this can result in a risk of fire or electrical shock.

For Outdoor Product

Power Lines - An outdoor system should not be located in the vicinity of overhead power lines, electric lights or power circuits, or where it may contact such power lines or circuits. When installing an outdoor system, extreme care should be taken to keep from touching power lines or circuits, as this contact might be fatal. U.S.A. models only - refer to the National Electrical Code Article 820 regarding installation of CATV systems.

For Rack-mount Product

1. **Ventilation** - This unit should not be placed in a built-in installation or rack, unless proper ventilation is provided, or the manufacturer's instructions have been adhered to. The equipment must not exceed its maximum operating temperature requirements.
2. **Mechanical Loading** - Mounting of the equipment in a rack shall be such that a hazardous condition is not achieved due to uneven mechanical loading.

Safety Precautions

CAUTION
RISK OF ELECTRIC SHOCK. DO NOT OPEN!

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol indicates the presence of uninsulated "dangerous voltage" within the product's enclosure. This may constitute a risk of electric shock.

The user should consult the operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Attention: Installation should be performed by qualified service personnel only in accordance with the National Electrical Code or applicable local codes.

Power Disconnect. Units with or without ON-OFF switches have power supplied to the unit whenever the power cord is inserted into the power source; however, the unit is operational only when the ON-OFF switch is in the ON position. The power cord is the main power disconnect for all units.

FCC & ICES INFORMATION

(U.S.A. and Canadian Models Only)

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) This device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules and ICES-003 of Industry Canada. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer, or an experienced radio/TV technician for help.

Intentional or unintentional changes or modifications, not expressly approved by the party responsible for compliance, shall not be made. Any such changes or modifications could void the user's authority to operate the equipment.The user may find the following booklet, prepared by the Federal Communications Commission, helpful: How to Identify and Resolve Radio-TV Interference Problems. This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

Sécurité

ATTENTION

RISQUE D'ÉLECTROCUTION. NE PAS OUVRIR !

ATTENTION : POUR ÉVITER TOUT RISQUE D'ÉLECTROCUTION, N'ESSAYEZ PAS DE RETIRER LE CAPOT (OU LE PANNEAU ARRIÈRE). CET APPAREIL NE CONTIENT AUCUN COMPOSANT SUSCEPTIBLE D'ÊTRE RÉPARÉ PAR L'UTILISATEUR. CONFIEZ LA RÉPARATION DE L'APPAREIL À DU PERSONNEL QUALIFIÉ.

Ce symbole signale que le produit renferme une « tension potentiellement dangereuse » non isolée susceptible de provoquer une électrocution.

Ce symbole invite l'utilisateur à consulter les instructions d'utilisation et d'entretien (dépannage) reprises dans la documentation qui accompagne l'appareil.

Attention : l'installation doit exclusivement être réalisée par du personnel qualifié, conformément au code national d'électricité américain (NEC) ou au code d'électricité local en vigueur.

Coupure de l'alimentation. Qu'ils soient pourvus ou non d'un commutateur ON/OFF, tous les appareils reçoivent de l'énergie une fois le cordon branché sur la source d'alimentation. Toutefois, l'appareil ne fonctionne réellement que lorsque le commutateur est réglé sur ON. Le débranchement du cordon d'alimentation permet de couper l'alimentation des appareils.

Sicherheitshinweise

VORSICHT

ELEKTRISCHE SPANNUNG. NICHT ÖFFNEN!

VORSICHT: UM EINEN ELEKTRISCHEN SCHLAG ZU VERMEIDEN, IST DIE ABDECKUNG (ODER RÜCKSEITE) NICHT ZU ENTFERNEN. ES BEFINDEN SICH KEINE TEILE IN DIESEM BEREICH, DIE VOM BENUTZER GEWARTET WERDEN KÖNNEN. LASSEN SIE WARTUNGSARBEITEN NUR VON QUALIFIZIERTEM WARTUNGSPERSONAL AUSFÜHREN.

Das Symbol macht auf nicht isolierte „gefährliche Spannung" im Gehäuse aufmerksam. Dies kann zu einem elektrischen Schlag führen.

Der Benutzer sollte sich ausführlich über Anweisungen für die Bedienung und Instandhaltung (Wartung) in den begleitenden Unterlagen informieren.

Achtung! Die Installation sollte nur von qualifiziertem Kundendienstpersonal gemäß jeweils zutreffender Elektrovorschriften ausgeführt werden.

Unterbrechung des Netzanschlusses. Geräte mit oder ohne Netzschalter haben Spannung am Gerät anliegen, sobald der Netzstecker in die Steckdose gesteckt wird. Das Gerät ist jedoch nur betriebsbereit, wenn der Netzschalter (EIN/AUS) auf EIN steht. Wenn das Netzkabel aus der Steckdose gezogen wird, ist die Spannungszuführung zum Gerät vollkommen unterbrochen.

Precauciones de Seguridad

ATTENZIONE

PERICOLO DI SCOSSA ELETTRICA. NON APRIRE.

PRECAUCIÓN: PARA DISMINUIR EL RIESGO DE DESCARGA ELÉCTRICA, NO RETIRE LA CUBIERTA (NI LA PARTE POSTERIOR). NO EXISTEN PIEZAS DE RECAMBIO EN EL INTERIOR DEL EQUIPO. EL PERSONAL DE SERVICIO CUALIFICADO SE ENCARGA DE REALIZAR LAS REPARACIONES.

Este símbolo indica que existen puntos de tensión peligrosos sin aislamiento dentro de la cubierta de la unidad. Estos puntos pueden constituir un riesgo de descarga eléctrica.

El usuario debe consultar las instrucciones de funcionamiento y mantenimiento (reparación) en la documentación que se suministra con el aparato.

Atención: la instalación la debe realizar únicamente personal cualificado de conformidad con el National Electric Code o las normas aplicables en su país.

Desconexión de la alimentación. Las unidades con o sin interruptores de encendido/apagado reciben alimentación eléctrica siempre que el cable de alimentación esté conectado a la fuente de alimentación. Sin embargo, la unidad sólo funciona cuando el interruptor está en la posición de encendido. El cable de alimentación es la principal fuente de desconexión de todas las unidades.

Veiligheidsmaatregelen

VOORZICHTIG

GEVAAR VOOR ELEKTRISCHE SCHOK. NIET OPENEN!

VOORZICHTIG: OPEN DE BEHUIZING OF DE ACHTERKANT VAN HET APPARAAT NIET. ZO VERMINDERT U HET RISICO OP ELEKTRISCHE SCHOKKEN. IN HET APPARAAT BEVINDEN ZICH GEEN ONDERDELEN DIE U ZELF KUNT REPAREREN. LAAT SERVICE EN ONDERHOUD UITVOEREN DOOR GEKWALIFICEERD PERSONEEL.

Dit symbool geeft aan dat er binnen in het apparaat ongeïsoleerde, gevaarlijke spanning aanwezig is die mogelijk elektrische schokken kan veroorzaken.

De gebruiker dient de bedienings- en onderhoudsvoorschriften te raadplegen in de documentatie die werd meegeleverd met het apparaat.

Attentie: het apparaat mag alleen door gekwalificeerd personeel worden geïnstalleerd. De installatie dient in overeenstemming met de nationale elektrische richtlijnen of de van toepassing zijnde lokale richtlijnen te worden uitgevoerd.

Spanning uitschakelen. Apparatuur met of zonder aan-uitschakelaar staat onder spanning zolang de stekker is aangesloten op de wandcontactdoos. De apparatuur is uitsluitend in werking als de aan-uitschakelaar aan staat. Het netsnoer is de "hoofdschakelaar" voor alle apparatuur.

Medidas de Segurança

CUIDADO

RISCO DE CHOQUE ELÉCTRICO. NÃO ABRIR!

CUIDADO: PARA REDUZIR O RISCO DE CHOQUE ELÉCTRICO, NÃO RETIRE A TAMPA (OU A PARTE POSTERIOR). NO INTERIOR, NÃO EXISTEM PEÇAS QUE POSSAM SER REPARADAS PELO UTILIZADOR. REMETA A ASSISTÊNCIA PARA OS TÉCNICOS QUALIFICADOS.

Este símbolo indica a presença de "tensão perigosa" não isolada dentro da estrutura do produto, o que pode constituir risco de choque eléctrico.

O utilizador deve consultar as instruções de funcionamento e manutenção (assistência) nos documentos que acompanham o aparelho.

Atenção: a instalação deve ser executada apenas por técnicos qualificados da assistência, de acordo com o código eléctrico nacional ou os códigos locais aplicáveis.

Corte de corrente. As unidades com ou sem interruptores ON-OFF (ligar/desligar) recebem corrente sempre que o fio de alimentação está introduzido na fonte de alimentação; contudo, a unidade apenas está operacional quando o interruptor ON-OFF está na posição ON. O fio de alimentação destina-se a desligar a corrente em todas as unidades.

Sicurezza

ATTENZIONE

PERICOLO DI SCOSSA ELETTRICA. NON APRIRE.

ATTENZIONE: PER RIDURRE IL RISCHIO DI SCOSSE ELETTRICHE NON RIMUOVERE LA COPERTURA (O IL PANNELLO POSTERIORE). L'UNITÀ NON CONTIENE COMPONENTI INTERNI RIPARABILI DALL'UTENTE. PER QUALSIASI INTERVENTO, RIVOLGERSI A PERSONALE TECNICO QUALIFICATO.

Questo simbolo indica la presenza di "tensione pericolosa" non isolata all'interno del contenitore del prodotto. Ciò comporta un potenziale rischio di scosse elettriche.

Si consiglia di consultare le istruzioni operative e di manutenzione (interventi tecnici) contenute nella documentazione fornita con il dispositivo.

Attenzione: l'installazione deve essere effettuata esclusivamente da personale tecnico qualificato in conformità con il National Electrical Code o con le normative locali vigenti.

Scollegamento dell'alimentazione. Le unità dotate o sprovviste di interruttori ON-OFF vengono alimentate quando si inserisce il cavo nella presa dell'alimentazione. L'unità è tuttavia in funzione solo quando l'interruttore ON-OFF si trova nella posizione ON. Il cavo di alimentazione costituisce il dispositivo di scollegamento dell'alimentazione principale per tutte le unità.

安全预防措施

CAUTION

RISK OF ELECTRIC SHOCK. DO NOT OPEN!

注意：为避免受到电击，不要拆除机盖（或后盖）。用户不得擅自维修里面的部件。有关维修事项，请咨询合格的维修人员。

此符号表示产品机壳内存在未绝缘的“危险电压”。这可能导致电击。

用户应参照设备附带的操作和维护（维修）说明。

注意：安装须由合格的维修人员遵照美国国家电工标准或相关电气规则进行。

断开电源。在电源线插入电源时，配备或未配备 ON-OFF 开关的设备都已通电；但设备只有在 ON-OFF 开关处于 ON 位置时才能工作。对于所有设备，电源线是断开电源的主要方式。

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1 INTRODUCTION

1.1 Monitors

The LTC 2915/91 (15.3in./39cm), LTC 2917/91 (17.3in./44cm), and LTC 2919/90 (19in./48.3cm) monitors are intended for display of PAL or NTSC standard color pictures in CCTV systems. This family of monitors accepts two (2) Composite Video inputs with loop-through BNC connectors and one (1) Y/C loop-through input with two (2) 4-pin mini-DIN connectors, located on the rear of the monitors.

The video input selection buttons (**A**, **B**, **Y/C**, and **SEQ**) are located on the front of the monitor.

For applications that require audio, two (2) sets of audio phono jack connectors are provided on the rear panel.

1.2 Unpacking

This electronic equipment should be unpacked and handled carefully.

Check for the following items:

- LTC 2915/91, LTC 2917/91, or LTC 2919/90 Color Video Monitor
- Two (2) Power Cords: One (1) for 120VAC, 60Hz mains power; one (1) for 230VAC, 50Hz mains power
- Instruction Book (this document)

1.3 Accessories (Not Included)

LTC 9113/00 Rack Kit: For mounting one LTC 2915/91 monitor in a 19in. standard EIA rack.

LTC 9117/00 Rack Kit: For mounting one LTC 2917/91 monitor in a 19in. standard EIA rack.

LTC 9119/00 Rack Kit: For mounting one LTC 2919/90 monitor in a 19in. standard EIA rack.

2 SERVICE

If the unit ever needs repair service, the customer should contact the nearest Bosch Security Systems, Inc. Service Center for authorization to return and shipping instructions.

Service Centers

USA: Phone: 800-366-2283 or 717-735-6638
Fax: 800-366-1329 or 717-735-6639
CCTV Spare Parts
Phone: 800-894-5215 or 408-956-3853 or 3854
Fax: 408-957-3198
E-mail: BoschCCTVparts@ca.slr.com
Canada: 514-738-2434
Europe, Middle East & Asia Pacific Region:
32-1-440-0711

For additional information, see www.boschsecuritysystems.com.

3 ILLUSTRATIONS

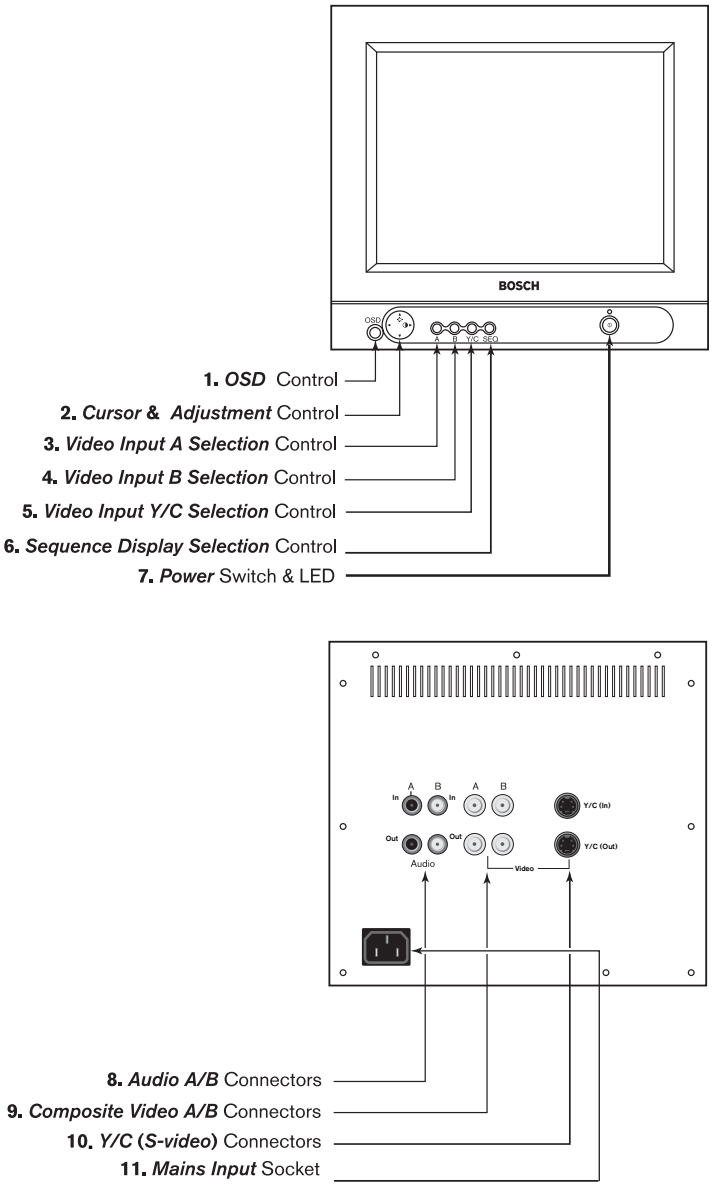


Figure 1 Monitor Models LTC 2915/91, LTC 2917/91, and LTC 2919/90 – Front and Rear Views

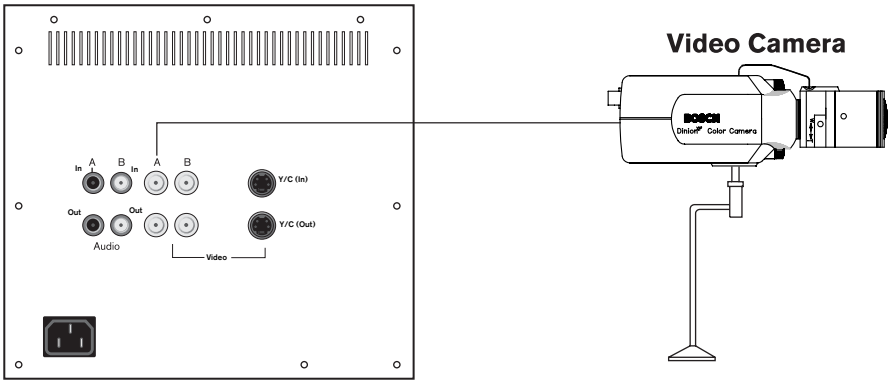


Figure 2 Connecting a Single Monitor

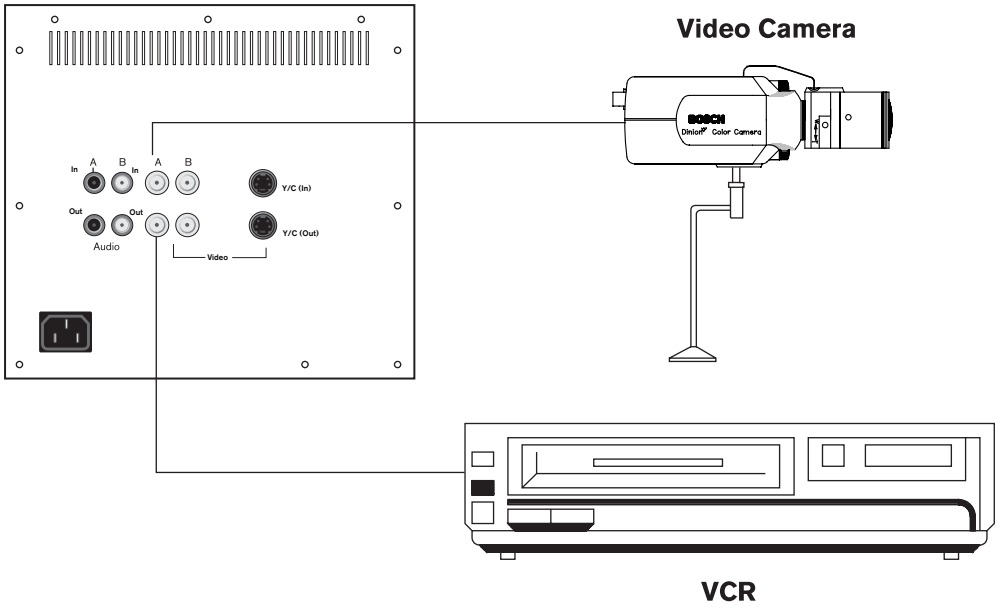


Figure 3 Outputting Video Signal to an External Device

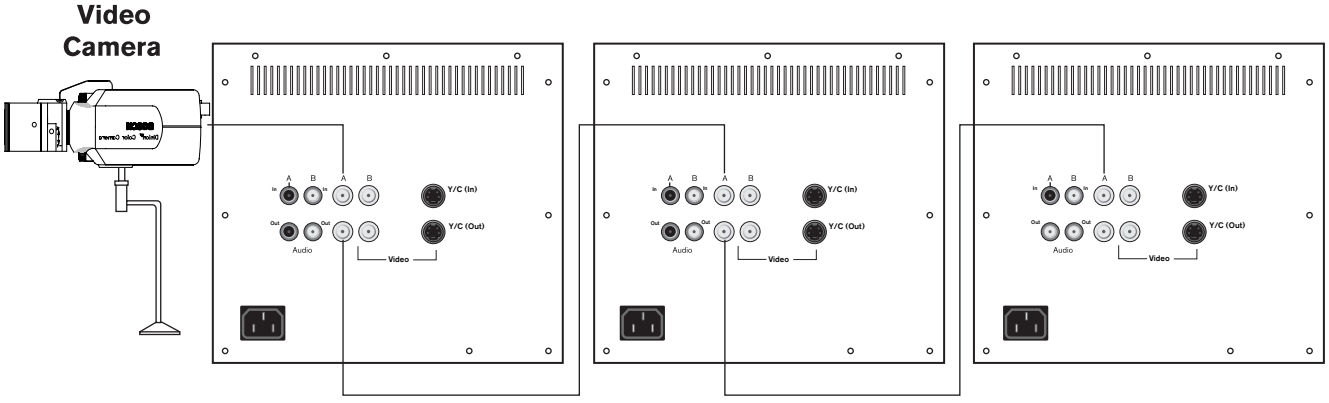


Figure 4 Connecting Multiple Monitors

4 INSTALLATION

4.1 Ventilation

To prevent overheating, ensure that the ventilation openings on the monitor are not covered.

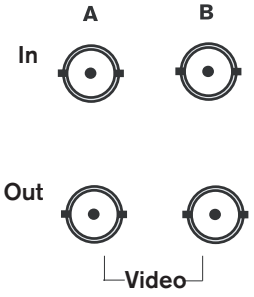
4.2 Power

Model No.	Rated Voltage	Voltage Range	Power at Rated Voltage	Sync Format
LTC 2915/91	120/230VAC 50/60Hz	100 to 240	80W	PAL/ NTSC
LTC 2917/91	120/230VAC 50/60Hz	100 to 240	90W	PAL/ NTSC
LTC 2919/90	120/230VAC 50/60Hz	100 to 240	100W	PAL/ NTSC

The LTC 2915/91, LTC 2917/91, and LTC 2919/90 monitors are delivered with a 3-pole US style power cord and a 3-pole Euro style power cord. The US style power cord is used where 120VAC, 60Hz power is available, and the Euro style power cord is used where 230VAC, 50Hz power is available. The monitor end of the power cord plugs into mains input socket (Figure 1, Item 11) on the rear panel. The monitor automatically adjusts to either power input voltage. A power ON/OFF switch is located on the front of the unit (Figure 1, Item 7).

4.3 Connecting Composite Video Signal to the Monitor

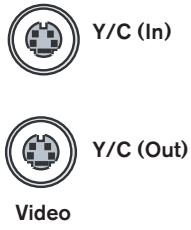
The four (4) BNC connectors (Figure 1, Item 9) located on the rear of the monitor are for composite video inputs and outputs.



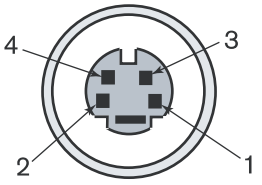
NOTE: All video inputs are passive loop-through.

4.4 Connecting Y/C (S-video) Signal to the Monitor

There are two (2) mini-DIN type connectors (Figure 1, Item 10); one for Y/C input (IN) and one for a loop-through Y/C output (OUT) to another device.



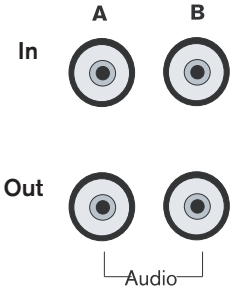
NOTE: The video input is passive loop-through.



1. GND
2. GND
3. Y-signal IN or OUT
4. C-signal IN or OUT

4.5 Connecting Audio to the Monitor

There are two (2) sets of monaural audio connectors (Figure 1, Item 8); one for audio input and one for a loop-through output to another device.



NOTE: AUDIO A is associated with VIDEO A; and AUDIO B with both VIDEO B & VIDEO Y/C.

5 OPERATION

5.1 Front Panel Controls (Figure 1)

OSD (#1): Selects on-screen display (OSD); saves settings.

▲ (#2 up): Multifunction;
First push – selects brightness function for adjustment;
Brightness adjust mode – increases brightness level;
OSD menu – moves the cursor upward

▼ (#2 down): Multifunction;
First push – selects brightness function for adjustment;
Brightness adjust mode – decreases brightness level;
OSD menu – moves the cursor downward

◄ (#2 left): Multifunction;
First push – selects contrast function for adjustment;
Contrast adjust mode – decreases contrast level;
OSD menu – moves the cursor to the left or decreases adjustment levels

► (#2 right): Multifunction;
First push – selects contrast function for adjustment;
Contrast adjust mode – increases contrast level;
OSD menu – moves the cursor to the right or increases adjustment levels

A (#3): Selects the video input A to be displayed

B (#4): Selects the video input B to be displayed

Y/C (#5): Selects the video input Y/C (S-video) to be displayed

SEQ (#6): Selects all three video inputs A, B, & Y/C (S-video) to be displayed in sequence. Displaying duration is set using the *OSD* menu (Dwell Time).

NOTE: All video inputs selected for sequence mode must be connected prior to applying power to the monitor.

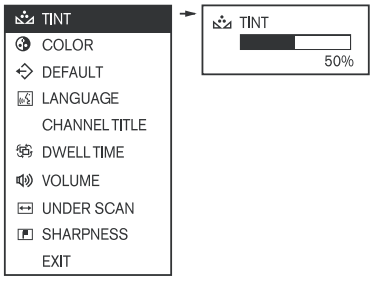
(#7): Press this switch to turn the monitor ON (the indicator will illuminate). Press the switch again to turn the monitor OFF.

5.2 On-screen Display (OSD) Menu

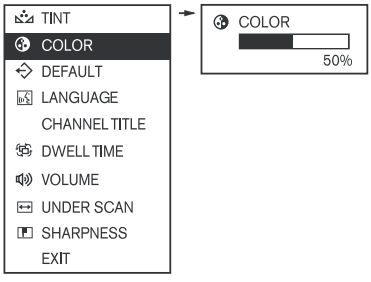
Press **[OSD]** (Figure 1, Item 1) to obtain the following menu options:

Tint: Adjusts color level; for best results, adjust until skin color is natural. See the *OSD Tint* menu configuration below.

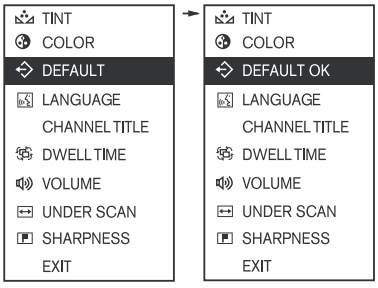
NOTE: Applicable to NTSC only; not available in PAL format.



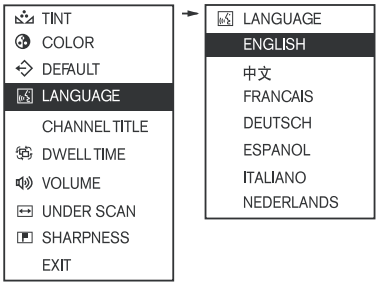
Color: Adjusts the overall color intensity of the screen display. See the *OSD Color* menu configuration below.



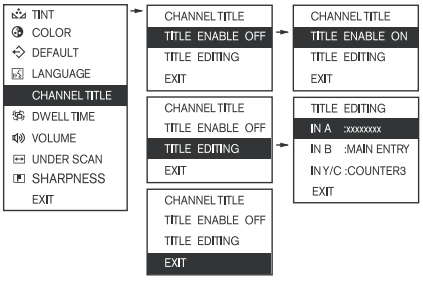
Default: Enables factory default settings for *Brightness, Contrast, Tint, Color, Volume,* and *Sharpness.* See the *OSD Default* menu configuration below.



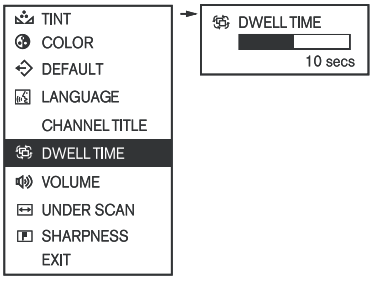
Language: Selects the language for the OSD text; available in English, Chinese, French, German, Spanish, Italian, and Dutch. See the *OSD Language* menu configuration below.



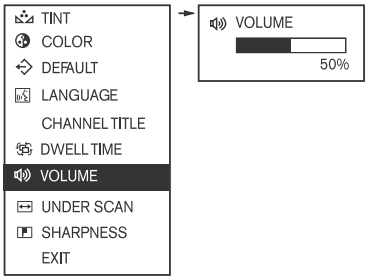
Channel Title: Allows selection and enabling of 8-character title per input channel. See the *OSD Channel Title* menu configuration below.



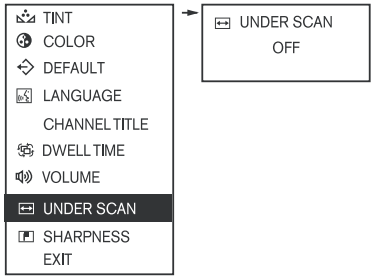
Dwell Time: Sets the duration in which input channels are displayed during the *SEQ* (sequence) mode. See the *OSD Dwell Time* menu configuration below.



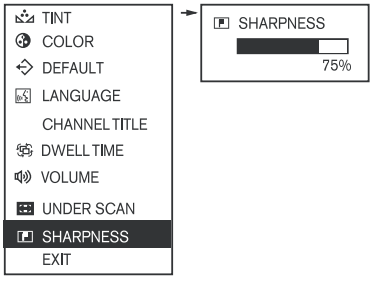
Volume: Adjusts the volume level for the audio inputs. See the *OSD Volume* menu configuration below.



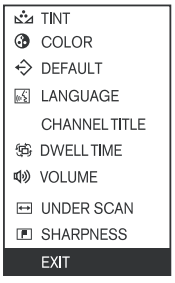
Under Scan: Selects the underscan display size. The *Under Scan* option reduces the picture size so that the entire image is displayed on the screen. See the *OSD Under Scan* menu configuration below.



Sharpness: Adjusts the sharpness level for video performance. See the *OSD Sharpness* menu configuration below.



Exit: Select to exit the current *OSD* menu and return to standard monitor display. See the *OSD Exit* menu below.



NOTES:

- The *OSD* menu will disappear from the display after ten (10) seconds if no selections or adjustments are made.
- Brightness and Contrast adjustments are made directly from the front panel using the cursor and adjustment controls (▲, ▼, ◄, and ►) button (Figure 1, Item 2).

6 SPECIFICATIONS

6.1 Electrical

Display Tube	
LTC 2915/91	39cm (15.3in) measured diagonally,
	90° deflection dot triad pitch 0.28mm
	integral implosion protection
LTC 2917/91	44cm (17.3in) measured diagonally,
	90° deflection dot triad pitch 0.27mm
	integral implosion protection
LTC 2919/90	48.3cm (19in) measured diagonally,
	90° deflection dot triad pitch 0.27mm
	integral implosion protection
Electrical	
Viewable Picture Area	
LTC 2915/91	35.6cm (14in), measured diagonally
LTC 2917/91	41cm (16.1in), measured diagonally
LTC 2919/90	45.7cm (18in), measured diagonally
Linearity	2 to 3% typical
	7% maximum
Horizontal Resolution	700 TV lines (minimum)
Video Inputs	
Composite Video	0.35 to 1.5Vp-p, sync negative,
	auto-terminating 75Ω unbalanced to Hi-Z
	with passive loop-through operation
Y/C	Y-Signal: 0.7Vp-p;
	C-Signal: 0.3Vp-p,
	auto-terminating 75Ω unbalanced to
	Hi-Z with loop-through operation
Audio Input	1V line level
Audio Output	Loop-through line level, 1W speaker
Mechanical	
Cabinet	
Material	Steel with plastic front
Finish	Charcoal
Dimensions	
LTC 2915/91	356W x 382D x 333H mm
	(14 x 15 x 13.1in)
LTC 2917/91	405W x 406D x 370H mm
	(15.9 x 16 x 14.6in)
LTC 2919/90	442W x 445D x 410H mm
	(17.4 x 17.5 x 16.1in) with footpads
	400H mm (15.75in) without footpads
Weight	
LTC 2915/91	13.2kg (29.0lb)
LTC 2917/91	19.4kg (42.7lb)
LTC 2919/90	24.0kg (52.9lb)

Environmental	
Temperature	Operating: 0°C to 55°C (32°F to 131°F)
	Storage: -10°C to 60°C (14°F to 140°F)
Humidity	10% - 90%, noncondensing
Product Regulatory Compliance	
Electromagnetic Compatibility (EMC)	
	Complies with FCC Part 15, ICES-003,
	and CE regulations
Product Safety	Complies with CE regulations, UL, CSA,
	EN, and IEC Standards
	Complies with DHHS Rules 21 CFR

7 TROUBLESHOOTING GUIDE

Problem	Resolution
No Power Indicated - The power plug may be loose or disconnected	Insert the power plug firmly into the socket
Power On, No Display - (1) No video signal connected; (2) Video cable is disconnected	(1) Select and push correct video input button; (2) Check video cable for proper connection and correct accordingly
Power On, No Sound - (1) Incorrect cable connection configuration; (2) Audio cable is disconnected; (3) Volume output is set too low	(1) Ensure that cable connection configuration is correct (see section 4.5); (2) Connect audio cable firmly; (3) Adjust speaker volume via *OSD* menu
Display Jitter - The monitor may be close to a device generating a strong magnetic field	Move the device away from the monitor until picture stabilizes
No Color, Incorrect Color, or Dark Color - The picture control setting (e.g. Tint, Color, Brightness, or Contrast) may be set improperly	Reset each picture control setting to the mid-range level, or restore the factory DEFAULT setting in the *OSD* menu
Unnatural Color, Irregular Color, or Distorted Picture - The monitor may be close to a speaker, magnet, or another device generating a strong magnetic field	Move the device away from the monitor and discontinue power to the monitor, wait at least 3 minutes, then restore power to the monitor
A Blank Display in Sequence Mode - Upon power-up, the monitor memorizes the system configuration (i.e., the number or video inputs connected). If a video input is added after power-up, that signal will NOT be displayed in sequence mode	Turn off the monitor for a few seconds, then power up again; the additional signal should now be included in the *sequence* mode

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3935 890 49011 04-24 | Updated June 10, 2004 | Data subject to change without notice.

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